

REMARKS

This application has been carefully reviewed in light of the Office Action mailed February 9, 2005. Claims 1-21 are pending in the Application. Applicants respectfully requests reconsideration and favorable action of all pending claims in view of the following remarks.

Section 102 and 103 Rejections:

The Office Action rejects Claims 1-2, 4-5, 12-18 and 20-21 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 6,359,520 to Frazier et al. ("*Frazier*"), and Claims 3, 6-11, 19 under 35 U.S.C. § 103(a) as being unpatentable over *Frazier* as applied to Claim 1 above in view of U.S. Patent 5,930,323 to Tang ("*Tang*"). Applicant respectfully traverses.

Clam 15 is allowable at least because the cited reference does not disclose causing a portion of a circuit to exhibit at a selected frequency an electrical reactance that includes a complex conjugate reactance of a reactance of a resonant tunneling device at the selected frequency so that the complex conjugate reactance substantially cancels the reactance of the resonant tunneling device at the selected frequency. In rejecting this claim, the Office Action refers to Figure 10 of *Frazier*, stating that second portion (124) "has an electrical reactance that includes at a selected frequency a complex conjugate reactance of a reactance of the resonant tunneling device (123) at the selected frequency, so that at the selected frequency the complex conjugate reactance substantially cancels the reactance of the resonant tunneling device," but this is incorrect. Nothing in *Frazier* discloses that resonant circuit 124 has the complex conjugate reactance of the reactance of the resonant tunneling device.

Rather, it appears from *Frazier* that resonant circuit 124 has no reactance at the frequency of operation and thus could not include the claimed reactance that substantially cancels the reactance of the resonant tunneling device. This is because the resonant circuit 124, consisting of the parallel combination of an inductor and a capacitor, "are tuned to the desired oscillation frequency." Thus, it appears that the resonant circuit 124 exhibits no reactance at the resonant frequency, and could not cancel the reactance of the resonant tunneling device of Figure 10.

In any event, *Frazier* provides no disclosure of the claimed complex conjugate reactance, and the Office Action has identified to such disclosure. For at least this reason, Claim 15 is allowable. All other pending claims are allowable for the same or analogous reasons. Reconsideration and favorable action are requested.

Claims 6 and 7 are also allowable for the additional reason that they define additional limitations that are not taught or suggested by the cited reference. The Office Action concedes that the additional limitations of Claims 6 and 7 are not shown by the cited reference, but states that “regarding the limitation recited in Claims 60-11 and 19, this [sic] different is not a patentable one since it involves merely using different devices . . . without any difference in operative result.” This is incorrect. As described in Applicant’s specification, “a further advantage is realized where **the structure which provides the resonance is rendered ineffective at frequencies below the transition frequency**. This effectively provides the tunneling device with two different modes of operation, one of which is a narrowband mode at the selected frequency above the transition frequency, and the other of which is a wideband mode throughout the range of frequencies below the transition frequencies.” The blocking capacitor of Claim 6 and the transmission line of Claim 7 allows for such two-mode operation, in some embodiments. Thus, it is clear that the additional limitations of Claims 6 and 7 do not involve mere use of different devices “without any difference in operative result.” Therefore, the sole reason given in the Office Action for asserting that Claims 6 and 7 are obvious over the cited reference is clearly incorrect.

In any event, no suggestion or motivation to modify *Frazier* to include the claimed blocking capacitor or the claimed transmission line in the inventions of Claims 5 and 1, respectively, has been identified, as required by the M.P.E.P. For at least this additional reason, Claims 6 and 7 are allowable, as are the claims depending therefrom, Claims 8-9. Claim 19 is also allowable for the analogous reasons. Reconsideration and favorable action are requested.

CONCLUSION

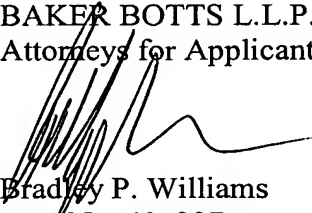
Applicant has now made an earnest attempt to place this case in condition for immediate allowance. For the foregoing reasons and for other apparent reasons, Applicant respectfully requests allowance of all pending claims.

If the Examiner feels that prosecution of the present Application may be advanced in any way by a telephone conference, the Examiner is invited to contact the undersigned attorney at 214-953-6447.

Applicants do not believe that any fees are due. However, the Commissioner is hereby authorized to charge any required fees and credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

BAKER BOTTS L.L.P.
Attorneys for Applicants



Bradley P. Williams
Reg. No. 40, 227

Date: June 9, 2005

Customer Number: **45,507**